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ABSTRACT

Project SHAL in St. Louis (Missouri) involved an attempt to reproduce effective schooling elements, as identified by research, in four inner-city schools, including one middle school (Stowe) and three K-5 schools (Hempstead, Arlington, and Laclede). The pilot project required the development of a replication model to track project implementation, assist in replication in other schools, and provide some evaluation guidance. The replication model was based on elements of change and communication theory. Effective schooling research identified key program elements that were the focus of implementation efforts: administrative leadership, school climate, high expectations, commitment to basic skills, and regular and continuous assessment. The presence of these elements designated full implementation. This communication/change matrix was related to moral development stages described by Kohlberg. The SHAL replication model helped educators understand change and track implementation in complex change efforts. It identified communication as the important factor in change and suggested that durable change requires conviction. Figures include a summary of effective schooling elements and the SHAL replication model. Four pages of the project's interim evaluation report are appended. (PB)

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THE CHANGE PROCESS IN REAL LIFE: TRACKING IMPLEMENTATION OF
EFFECTIVE SCHOOLING ELEMENTS IN PROJECT SHAL, ST. LOUIS

April 1983

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ABSTRACT

Area I, St. Louis (MO) schools wished to increase pupil achievement in schools. The plan was to implement on a pilot basis in selected schools the key elements of "effective" schools as identified by research (e.g. Edmonds, Brookover). One challenge was to develop an implementation plan or replication model as a way to 1) track the implementation, 2) assist in replication in other schools if the pilot were effective, and 3) provide some guidance for evaluation.

The replication model was built based upon elements of change theory and communication theory. The stages of implementation included the key elements of effective schooling with full implementation being designated by the presence of behaviors, processes, etc. described in effective schooling research. The stages were also related approximately to moral developmental stages (Kohlberg) to suggest persons' motivations for moving from one stage to another.

The model was successful in St. Louis. The process seems suitable for tracking the implementation of complex innovations.

THE CHANGE PROCESS IN REAL LIFE: TRACKING IMPLEMENTATION OF
EFFECTIVE SCHOOLING ELEMENTS IN PROJECT SHAL, ST. LOUIS*

Introduction/Background

Research in recent years has focused on the notion of "effective schools" (Edmonds, Clark et al., Brookover, Venezky and Winfield, etc. See Figure 1 and bibliography. All Figures at end of paper.) In most studies the researchers analyzed schools that had been identified as "effective" and identified, labelled and categorized those elements that seemed to make the schools effective. Basically there were five or six elements: strong administrative leadership, climate conducive to learning, emphasis on basic skills, high expectations, frequent assessment of progress toward objectives, achievement motivation, staff development, etc. It is one thing to identify these characteristics in effective schools; it is quite another thing to transplant these characteristics into schools not identified as effective.

Area I of the St. Louis, MO, public schools was involved in desegregation efforts but realized, realistically, that there were too few white pupils to effect a reasonable racial balance. The Area I superintendent (and others) determined that, since desegregation was not likely to be achieved quickly, a more realistic goal would be to make the schools in Area I as effective (i.e., in the parlance of "more effective schools") as possible regardless of the racial composition of the schools. (Many schools in Area I were not "effective" as measured by student outcomes and other factors. In some schools, more than 50% of the pupils were in the bottom quartile in reading or math on the California Achievement Tests--CAT; on all tests the schools were below the city and national means at the beginning of the project. There were high absenteeism, minimal community involvement, etc. Many maladies usually associated with inner-city schools were evident in the Area I schools.)

The plan was to start the improvement effort in one cluster of K-5 elementary schools (Hempstead, Arlington, Laclede) that fed into one 6-8 middle school (Stowe). The project, optimistically called SHAL, gained financial support from the Danforth Foundation and state desegregation funds and technical assistance from the Midwest Race Desegregation Assistance Center, Kansas State University, Manhattan, KS.

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Although much of the research on effective schools sought effective schools (typically identified because pupils in those schools were achieving above expectations) and studied what elements seemed to make those schools effective, Project SHAL attempted to take what was known from research on "more effective schools" (e.g. Edmonds) and to install key elements in actual practice in public schools that were not effective. It was an attempt to change the status quo; a major improvement effort. Thus, the perspective and theoretic framework for this project lie in the areas of change, change theory, and research utilization. Project SHAL began in four schools. If successful, there were plans to move ahead with implementation in additional schools (SHAL has added 12 more schools in 1982-83.) Thus, there was need for some procedure to track implementation, to provide a basis for replication, and to guide evaluation efforts. Baseline test data for SHAL were the Fall, 1980, CAT scores. Planning and readiness occurred in 1980-81, with general inservice during the summer, 1981.

Objectives

This paper has several objectives: 1) briefly to describe Project SHAL and the attempt to implement effective school elements in four inner-city St. Louis schools (context); 2) in some detail to describe the replication model (theory and process) developed to track implementation, and to discuss its use in replication and evaluation (process); and 3) briefly to describe substantive results of project SHAL to date (product). The previous section of this paper provides a brief summary of Project SHAL and the major considerations surrounding it.

The Concern for Implementation

Evaluation efforts have often been plagued by incomplete implementation of the phenomenon being evaluated, or even by the "non-event" or verbal adoptions only (e.g., people talking about the phenomenon but not really doing it). Some researchers have warned evaluators against the "non-event" and have suggested the need to evaluate the degree of implementation (e.g. Charters and Jones, 1973; Hall and Loucks, 1977). Recently evaluators and researchers have become more concerned about the act of implementation itself. Parish and Arends (1983), for example, believe that one major reason for discontinuation of innovative programs is insufficient care and detail in the implementation. They note a statement by Fullan and Park (1981) that "implementation will occur to the extent that each and every teacher has the opportunity to work out the meaning

of the "implementation in practice" (Fullan and Park, as cited in Parish and Arends, 1983: 65).

Krueger and Parish (1982) identify eight characteristics that deter implementation (or, viewed from another perspective, eight characteristics that must be addressed carefully to improve the chances of successful implementation). Kremper and Achilles (1979) reviewed the evaluation literature and attempted to synthesize what some evaluation researchers had to say about program-implementation evaluation (p. 21).

Program-Implementation Evaluation

Purpose. Program-implementation evaluation provides information on the extent to which a program's operations conform to those specified in the program plan. It can help identify problems or discrepancies in either the plan or the administration of program operations and procedures. The outcome of an evaluation comparing planned and observed operations acts as a link between program objectives and actual program outcomes.

Methods. Program-implementation evaluation basically consists of comparing observed program inputs, operations, and procedures with the planned inputs, operations, and procedures...; whether or not the program is being carried out within planned specified limits is of concern.

Program-implementation evaluation techniques are typically non-experimental and include: direct observation, interviews, inventories of materials and facilities used, and PERT.

Program-implementation evaluation involves collecting data on program inputs and program operations. Precise definition of these variables clarifies what the program actually consists of and contributes to the analysis of what program features are effective in producing planned outcomes.

Specification and measurement of program operation variables or treatment conditions are considered essential since they are expected to effect outcomes. Weiss (1972) suggests constructing model of the program based on the program plan and its intended effects; means and steps by which the program is intended to produce the planned outcomes are specified. Subsequently, operations characterizing those means and steps are chosen for systematic, detailed description.

Several researchers have been concerned with developing procedures or models for tracking implementation efforts. Examples that come to mind include the Levels of Use, or LoU (Hall and Loucks, 1977); the Field-based Implementation Rating Scale, or FIRS (Rubin, Stuck and Revicki, 1982), and the use of a change model or framework to give direction to the assessment of program implementation (Leithwood and Montgomery, 1982). The replication model described in this paper is, it appears to us, more closely related to the Leithwood and Montgomery (1982) conceptualization than to the other implementation models.

Level of Communication Intensity	Message or Purpose	Media or Process	Sender	Audience
Dissemination	Spread the word. Create awareness or interest. Convey theory or ideas. Share concepts.	Mass communication, One-way. Large groups. Journal. Speech. TV Radio News conference. Talking aloud...		
Demonstration	Build conviction. Allow individual assessment. Introduce skill. Establish core or advocacy group	Question and answer. Small group. Observation and inquiry. Tentative use. Interaction.		
Diffusion	Skill building. Practice. Drill Use. Competence/comfort. Learn well enough to teach	One-to-one, two-way communication coaching. Some small group work. Intensive "Hands on" effort training.		

From 1971-1974 two colleagues, reflecting on their collaboration on (then) Title III ESEA innovative projects, their review of literature and research, and their evaluations of projects developed model of change processes (Achilles and Norman, 1974). The current model has been refined and adapted from the earlier work.

Some Background

Achilles and Norman (1974) conceptualized a change "model", in a matrix format, that combined key elements of change theory on one axis and elements of communication theory on another axis. The model proved useful in a number of project proposals as 1) a structure to guide activities, 2) an organizing element for evaluation, and 3) as a procedure for tracking activities or progress (implementation). The refined model has been the conceptual base for a National Diffusion Network (NDN) State Facilitator project since 1976. (See Figure 2).

This change model suggests three levels of intensity of communication that are closely related to generally accepted "steps" of the change process, which actually constitute the "message" to be sent. These types of communication appropriately use different communication channels (or media) and facilitators (or "senders") to reach particular audiences depending on the purposes (or anticipated outcomes) of the communication. Those involved in working with the change (a process) or innovation (event) can manipulate the variables (audience, sender, media, message) to work toward successful implementation.

The model suggests that there are three general levels of intensity of communication. These levels, labelled dissemination, demonstration and diffusion, have important operational relationships. (The model below shows some elements of the relationships, but omits targeting the audience.)

Level of Communication Intensity	Message or Purpose	Media or Process	Sender
Dissemination	Spread the word, Create awareness or interest. Convey theory or ideas. Share concepts	Mass communication. One-way. Large groups. Journal. Speech. TV, Radio News. Conference.	
Demonstration	Build conviction. Allow individual assessment. Introduce skill. Establish core or advocacy group	Question and answer. Small group. Observation and inquiry. Tentative use. Interaction.	
Diffusion	Skill building. Practice. Drill. Use. Competence/comfort	One-to-one, two-way communication coaching. Some small group. Intensive. "Hands on" effort.	

Earlier work at the Midwest Race/Sex Desegregation Assistance Center, Kansas State University, had built upon this general conceptualization to provide a framework for tracking a school's (or school district's) progress from segregation to desegregation and toward integration or equity. This process of change was seen as developmental in nature and closely involved differential motivations for action and levels of moral reasoning and choice. That is, at one level there was the legal requirement for compliance (and potential sanctions for failure to meet minimum compliance standards); at the "ideal" there was a moral reasoning and choice that related to justice, right, equity or equality of human rights, and the notion of human dignity. Punishment, if any, would be conscience and personal uneasiness at not doing "right." This general notion was approximately close to the notion of moral stages, moral judgement and moral action as described by Kohlberg (e.g., 1975).

The general notion of developmental moral stages helped explain individual motivation to move from one level of the change process to another and suggested some descriptors for the "climate" surrounding the change. Figure 3 shows the general structure that resulted from trying to relate the communication/change matrix (Achilles and Norman, 1974) to elements of Kohlberg's conceptualizations. [(In the expanded model, key aspects of school operations--staff development, curriculum, resource allocation, for example--were located across the top of the model. The top line (advocacy) was filled in with statements describing the ideal (universal-ethical) situation. The bottom line (recognition) was completed with statements describing the base essentials of compliance. Intermediate steps were filled in with samples of observable behaviors (assessment indicators) representing increasing levels of moral consciousness).]

If a person or group could be accurately "located" on the grid in an area of concern (e.g., staff development), then content and strategies could be developed to help move the person or group toward the next level. Unfortunately the model has not yet had an appropriate field test in the context for which it had been designed.

The SHAL Replication Model

Minor adaptations to the models in Figures 2 and 3 produced the framework for the replication model developed for use in SHAL. The result provided a procedure for tracking the progress of implementation of key program elements (see the top line of Figure 4 for these--Administrative Leadership, School Climate, etc.). The conceptual base (Figure 2) suggested procedures to use to move through the levels of the change:

- A * Gain awareness/interest. Large group meetings. Use an "inspirational" and creditable "sender" (R. Edmonds). Meetings, newsletters, news stories: get the word out (disseminate).
- B * Convince/build conviction/persuade (trial/evaluation). Build a core group. Observation. Visits to exemplary sites (demonstration, especially for change leaders, the principals). Small groups.
- C * Get on with it. Training. Coaching, etc. Adoption or adaptation of major elements (diffusion).

In actuality, this process was followed twice, in a way. First it was used in general and to get the principals started. Next it provided direction for work with teachers.

The synthesis of research on "More Effective Schooling" identified the elements or factors that became the key program elements that were the focus of implementation efforts: Administrative Leadership, School Climate, High Expectations, Commitment to Basic Skills, Regular and Continuous Assessment. A literature review provided samples of positive or ideal behaviors associated with these key program elements, and these were synthesized and placed on the top line (institutionalization and renewal). Discussions with principals and other staff, observation in SHAL schools and literature syntheses provided additional developmental descriptors of behaviors. These were distributed in the "initiation" and "application" levels based on natural dividing points and a subjective assessment of the "climate" or "intentions" which seemed to motivate the behavior (related to Kohlberg's notions. See Figure 3).

The SHAL replication model, then, was built on a base of theory (communication, change, developmental moral stages) and completed with behavioral samples or indicators from the effective schools literature (ideal or renewal level) and from actual practice (the intermediate levels). The resulting model provides an adequate base for tracking the implementation of project SHAL efforts. The model also provides a way of checking or assessing progress of a particular faculty through the live key program elements.

It seems safe to say that the SHAL process exemplifies the appropriate utilization of research results. It is a model to help practicing educators become convinced that it is possible to take research results, develop local programs to use these results, and successfully implement these programs in schools.

A Postscript (Some SHAL Results)

After two years, it was determined that key elements were substantially in place in the four SHAL schools in St. Louis. In comparison with prior years, preliminary analyses indicate that there have been the following results in the SHAL schools: better student attendance, less student tardiness, less teacher absenteeism, less vandalism, better school climate, substantial changes in schooling/program/instruction, and improved student achievement on standardized measures.

Measures of student progress have been hindered by high mobility, lack of precise comparable data, and other problems often associated with large-scale improvement efforts. However, aggregate data and comparisons of certain groups (SHAL schools, Area I schools, City schools) to national norms for the CAT have provided the preliminary indicators that a positive change in student outcomes (CAT) is accompanying the implementation of key program elements in Project SHAL. (Four pages of the Interim Evaluation Report: Project SHAL are appended.) Progress to date has encouraged the initiation of SHAL activities in an additional 12 Area I schools as of fall, 1982.

Concluding Considerations

The replication model, because of its theoretic base, is adaptable for use in a variety of situations where it may be necessary to track the level of implementation.

The model is particularly useful where there are several elements or factors involved in a complex change effort.

The model provides insight into processes and activities useful for moving through the change process.

The model is primarily concerned with communication as the important factor in change; it does not consider the external factors (politics, etc.) in a patterned way.

The model is strikingly close to the three modes of instruction identified for the three "columns" of content as suggested by M. Adler (for the Paideia Group) in the Paideia Proposal. As such, it provides a summary notion of how process is related to learning (a key notion in change, as a person must learn something new in the change process).

The model is particularly useful where research has identified positive or ideal outcomes associated with desired results of the change. The research results become the "top line" or desiderata toward which other developmental stages lead.

The model suggests that, if a change is to be lasting and effective, there must be accompanying conviction. This conviction is akin to Kohlberg's (1975) notions of moral judgment and moral action.

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Administrator - A
Teacher - B

BEHAVIORS POSITIVELY ASSOCIATED WITH SCHOOL OUTCOMES

Behavior	Weber	N.Y. State Performance Review	Madden	Wellisch	Edmonds	Brookover	Calif. Sch. Improvement Project	Rutter	Goodlad	Clark et. al.	Medley	Venezky et. al.
Coordinates Instructional Programs. (A)				X	X	X	X			X		X
Emphasizes Achievement (Basic Skills) (A&B)	X	X	X	X	X	X	X	X	X	X	X	X
Frequently Evaluates Pupil Progress (A&B)	X	X	X		X	X	X			X	X	X
Provides Orderly Learn- ing Climate (A&B)	X	X	X		X	X	X			X		X
Sets Instruc- tional Stra- tegies (A&B)	X	X	X	X	X	X	X	X	X	X	X	X
High Expec- tations for Students (A&B) (To Learn)	X	X	X	X	X	X	X	X	X	X	X	X
(Time Mgt.) Task Oriented (B)		X		X		X	X		X	X	X	X
(Structured) Direct Instruc- tion (B)		X	X			X	X		X		X	
Use of Variety of Reward Systems (A&B)		X	X	X			X		X		X	
Involved in Curriculum Planning (Structuring) (A&B)		X	X			X	X		X		X	X
Preventive Rather Than Punitive Dis- cipline (A&B)	X		X	X	X	X				X		X

Figure 1. Summary of Effective Schools elements displayed by the authors/studies with which they are associated. Compiled by R. High, MAARDAC, College of Education, University of Tennessee, Knoxville.

ELEMENTS OF COMMUNICATION				MANAGEMENT/EVALUATION STEPS			Approximate Relationship to "Stages" (Kohlberg, 1975)
(1) Stage of Change Process (Messages)	(2) Facilitators (Transmitters)	(3) Channels or Processes	(4) Audiences or Target (Receivers)	(5) Purpose	(6) Results Action/Taken	(7) Evaluation: Methods/Outcomes	
Adoption or Adaptation (Incorporation) Confirmation Coaching/Tutor [Implement]							Principled
Evaluation/Trial (Implementation) Persuasion and Decision [Exchange/Choice]							Conventional
Awareness Interest (Initiation; Mobilization) Knowledge [Spread]							Preconventional

A. Dissemination, B. Demonstration, C. Diffusion.

Figure 2. Communication/Change Matrix relating Communication Theory and Change Process. Columns 5-7 --- are additional ones that might be added -- will provide direction and assist in analysis of implementation (or data). Terms in () are from RAND (Berman and McLaughlin), terms underlined are from Rogers (1962), terms in [] are from NDN, and other terminology is Rogers and Shoemaker (1971). Basic model from Achilles and Norman (1974), and Tennessee State Facilitator Project (TSFP) to the NDN for 1976-1982.

STAGES	LEVELS	ORGANIZATIONAL MOTIVATION	ASSESSMENT INDICATORS *	
			ADMINISTRATIVE DECISION MAKING	APPROXIMATION TO KOHLBERG'S STAGES (KOHLBERG, 1975)
Adoption or Adaption (Incorporation) Confirmation ↑ Evaluation or Trial (Implementation) Decision ↑ Awareness or Interest (Mobilization) Knowledge and Persuasion	ADVOCACY	Because it is best for students staff and community to build a better, more equitable society. Investment in human-centered issues: growth - centered, long-range systematic implementation plans based upon identified needs.	Collegial - Roles and responsibilities of staff will accommodate continuing and emerging issues and needs. Systems and programs address those needs. Systematic, process-centered approaches: proactive orientation; interactive and developmental.	Principled Level Stage 6. Universal-ethical principal orientation.
	APPLICATION	Because we consider a better society beneficial and we are willing to consider our own personal/professional development. Identifies/isolates solutions to identified concerns through a problem solving approach.	Cooperative - Increased involvement of staff in identifying problems and implementing solutions.	Principled Level Stage 5. Social-contract, legalistic orientation
	EXPLORATION	Because we want to be thought of as professionals. Awareness of persisting or re-occurring problems; recognition of the complexity of problems. We want to be known as good educators	Searching - Solicits, reviews and evaluates information, alternatives and strategies to address concerns or problems. Limited problem resolution; emphasis on exploring alternatives. Some involvement of staff. Administration initiates, solicits and disseminates info.	Conventional Level Stage 3. Interpersonal concordance Stage 4. Law and order orientation
	INITIATION	Because we don't want to let concerns get out of hand. Reactionary responses. We need to control problems.	Responsive- Administration responds to identified problems. Situational solutions, product centered. Reactive orientation.	Preconventional Level Stage 2. Instrumentalist-relativist orientation
	RECOGNITION	Reacts to external legal or administrative changes (state or federal government, courts). Aware of discomfort, confusion. Desire to eradicate discomfort. Need to comply with law.	Maintenance - Limited and superficial administrative action. Seek to maintain the status quo.	Preconventional level Stage 1. Punishment-obedience orientation

*Recognition of Midwest RDAC where developmental work on this model was initiated, carried forward and pilot tested.

Figure 3. Basic framework showing overlay of change steps and stages of moral growth used in conceptualizing the SHAL replication model.

PROJECT SHAL: AN EFFECTIVE SCHOOL IMPLEMENTATION/REPLICATION MODEL

STAGES	LEVELS	PROGRAM ELEMENTS			
		ADMINISTRATIVE LEADERSHIP	SCHOOL CLIMATE	HIGH EXPECTATIONS	
Adoption or Adaption (Incorporation) Confirmation ↑ Evaluation or Trial (Implementation) ↑ Decision ↑ Awareness or Interest (Mobilization Knowledge and Persuasion)	INSTITUTIONALIZATION: AND RENEWAL (ADVOCACY)	Principal: coordinates instructional programs; emphasizes achievement; sets broad school-wide goals and objectives; sets personal goals and objectives; transmits well-defined set of goals to faculty, parents and community; plans and schedules to make optimal use of human and physical resources; accepts responsibility for what goes on at school; emphasizes teacher inservice in specific content areas and classroom management techniques; keeps abreast of research in education for implementation as needed; takes assertive dominant role in decisions about the selection of instructional materials and in program planning and evaluation; monitors the instructional process; sets standards of performance for teachers and self.	Discipline code outlines consequences of unacceptable behavior. Discipline code is enforced consistently and fairly; understood and accepted by most parents, teachers and students. School functions as a coherent whole rather than teachers functioning as individuals. Principal: promotes an atmosphere that is orderly without being rigid, quiet without being oppressive, and generally conducive to the business at hand; enables teachers to teach by limiting housekeeping chores. Supports workers. Acts as resource and aggressively seeks resources for teachers. Fosters trust through positive teacher/principal interaction. Aggressively seeks and obtains political, parental and financial support.	Staff believes all students can master basic objectives. Students are expected to gain one year or more on standardized test for each school year (math, reading, writing). Trend continues or increases each subsequent year. Principal communicates high expectation of self and faculty to achieve school's goals and objectives. Teachers are expected to have expectations for students and to communicate expectations to their students. Staff communicates to students that they can learn and are expected to become good citizens and to graduate from high school.	5,6
	IMPLEMENTATION (TRIAL/PILOT) (APPLICATION)	Principal: focuses on climate, high expectations, basic skills, assessment, pupil achievement (and refocuses staff interest on these); plans with a sense of timing and moves from problem to program orientation; is highly visible (school grounds, hallways, and classrooms); schedules instructional supervision sessions; plans instructional events into the schedule; provides ongoing support to staff while focusing on the key goals of the project; strives to achieve school norms; knows school pupils, parents, staff and neighborhood; treats parents/students, staff with respect.	Respect and courtesy permeate the building. Sense of community and pride in building is felt and exhibited through potluck meals, informal coffees, etc. Sense of spirit. Staff members feel they are part of the school. Teachers feel responsible for all students and for classroom discipline. If teacher have problems, they phone or visit home (etc.). Mutual respect between and among students and staff. Planning time is for planning (no TV) and scheduled so that groups of teachers are together for planning. Students know that rules and Code of Conduct are implemented and consistently enforced.	Principal focuses on building and individual goals and on national achievement norms. Success is something seen as attainable by everyone. Increased honor roll, good citizenship, attendance and other incentive awards. Ongoing principal/teacher discussions about tests (i.e., CAT). Continuous inservice efforts on expectations, interactions and their relationships to achievement. Many pupil's behavior exhibits high goals and expectations.	4,5
	EXPLORATION AND DESIGN (INITIATION)	Principal: is a believer; Committed; rededicates him/herself to quality education; develops activities consistent with the purposes of education; establishes building goals and sets norms; remakes schedule to support such practices as learning blocks and common teacher planning time; fosters open communication, decision-making and problem-solving channels; refocuses his/her efforts on instruction.	Staff analyzes school climate profile and building plans are developed to improve identified problem areas. Committees formed to plan strategies. Instruction and learning are seen as the primary focus of school. However, factors affecting instruction such as discipline, rules, and building plant are still examined. Consistent Discipline Code/Handbook developed/updated. Motivational devices (buttons and murals) stress the positive. Award Days. Lots of student oriented activities. Neat building grounds. A clean environment is promoted as everyone's responsibility.	Principal and staff set national norms as standards for group achievement test results. Staff establishes high expectation for all persons in school. Emphasis on positive expectations. "Critical mass" of teachers become believers.	2,3
	RECOGNITION AND ORIENTATION	Strong commitment from "central office." Set up some structure for getting things done (i.e., administrative council to coordinate project activities, Task Forces to develop plans for program elements, Grade Level and Content Area Committees). Plan to keep the principal and staff in the same building for several years (Continuity of Leadership). Develop Readiness and Receptivity through public relations and staff awareness workshops. Develop a program and evaluation plan; collect baseline data on attendance, discipline referrals, school climate profiles and student ID's for all students at start of project.			OVER Approx Kohlberg (1975) Stages 1,2

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Figure 4. Project SHAL replication model.

PROJECT SHAL: AN EFFECTIVE SCHOOL IMPLEMENTATION/REPLICATION MODEL

STAGES	LEVELS	PROGRAM ELEMENTS		MAJOR OUTCOMES
		COMMITMENT TO TEACHING BASIC SKILLS	REGULAR AND CONTINUOUS ASSESSMENT	IMPROVED STUDENT ACHIEVEMENT
Adoption or Adaption (Incorporation) Confirmation ↑ Evaluation or Trial (Implementation) Decision ↑ Awareness or Interest (Mobilization Knowledge and Persuasion)	INSTITUTIONALIZATION AND RENEWAL (ADVOCACY)	Principal requires that instructional objectives guide the schools' programs. Critical mass of staff articulate commitment to basic skills. Staff opposes postponement of basic skills instruction for any reason. Emphasizes achievement in reading, math and language writing. Maximum teacher time on task (basic skills instruction) is required. Alternative remedial and accelerated programs are in place (not just pull-out).	Principal: requires use of standardized tests to measure academic achievement; requires use of teacher-made test designed to test achievement of objectives; requires periodic review of school-wide goals, objectives and strategies followed by appropriate change. Views declining achievement test scores as fault of school, not fault of students; Eager to avoid things that don't work; committed to implementing things that do. Frequently performance based on accomplishment of objectives; Teachers frequently evaluate pupil progress personally.	Group achievement scores at each grade level reach and are maintained at the national average or above. Individual students move at or above "average" and rates between pre- and post-test efforts.
	IMPLEMENTATION (TRIAL/PILOT) (APPLICATION)	Teachers and pupils engaged in planned learning efforts. Instruction-oriented staff meetings. Emphasis on basic skills (Mastery Learning and Missouri Math Effectiveness) improvement. No pull-out for Title I students; alternative approaches implemented. Ongoing teacher regrouping as needed. Structure, schedule and model for delivery are all in place.	Administrators monitor teachers' work as teachers are expected to monitor pupils' work. Stated and observed levels of achievement for promotion, homework, grading and minimum competencies implemented. Discussion of results of testing used as an assessment to identify problems and plans. Staff knows how students are progressing (has and uses results of testing programs).	Pupil attendance is increased. More positive parent inputs. Students in classes, not in halls. Increased rate of achievement. Games or contests in schools often focus on pupil achievement; rewards and recognition for achievement are known and respected in the school.
	EXPLORATION AND DESIGN (INITIATION)	Teachers agree on skills to be taught and some common goals to be attained. Use of ongoing workshops to introduce several successful basic skills approaches (direct instruction, time on task, etc.). Develop blocks of instructional time with no interruptions. Develop common lists of skills (i.e. for ten-week blocks) for each grade level. Articulation between/among teachers and grades. Teach major subjects early while pupils are most alert. Design spiraled minimum competencies. Inservice focuses on mastery learning of basic skills (Reading and Mathematics).	Teachers agree on expectations for passing or work needed for satisfactory completion. Staff development on test measurement and construction ongoing. Homework policy established.	Pupils seem "happier" at school. A more orderly school. Neater/cleaner/less noisy. More purposeful movement. Homework is being completed as required. Parents know about and support school focus on pupil achievement.
	RECOGNITION AND ORIENTATION	Strong commitment from "central office." Set up some structure for getting things done (i.e., administrative council to coordinate project activities. Task Forces to develop plans for program elements, Grade Level and Content Area Committees). Plan to keep the principal and staff in the same building for several years (Continuity of Leadership). Develop Readiness and Receptivity through public relations and staff awareness workshops. Develop a program and evaluation plan; collect baseline data on attendance, discipline referrals, school climate profiles and student ID's for all students at start of project.		

Figure 4. (continued)

Statistical Data*

Tables on the following pages present preliminary statistical analyses of SHAL 1981-82 year-end data on the CAT with City-wide and National Norm scores (Aggregate data.) This is a "one-shot" comparison to a norm and does not compare a beginning school-year (Fall) score with the appropriate year-end (Spring) score.

Table 6 presents data for SHAL schools by grades; Table 7 presents comparable data for City-wide results. Table 6 shows 19 comparisons for each of the 3 SHAL elementary schools (total of 57) and Table 7 shows the 19 comparisons for comparable test results city-wide; there are 12 comparisons for Stowe middle school in Table 6 and the comparable 12 comparisons for city-wide data in Table 7. In comparing data from the two tables, we can draw the following generalizations.

1. There are 69 total test results for the four SHAL schools and 31 for the city-wide results.
2. The SHAL results produced 35 means that were not statistically (.05) different from the national means; 8 that were greater and 26 that were less. Thus, on 43 of 69 (62 percent) SHAL schools attained or exceeded the statistical national mean. On 16 of 69 (23 percent) SHAL schools exceeded the numerical mean.
3. The city-wide results produced 2 means that were not statistically different from the national means; 2 that were greater and 27 that were less. On 4 of 31 (13 percent), St. Louis City attained or exceeded the statistical national mean. On 3 of 31 (9.7 percent) city schools (including SHAL) exceeded the numerical mean.
4. Comparisons of the two columns of raw score means and the size of the Z statistic show that SHAL schools are closer to the national mean than City-wide results in almost every case. (Example: City-wide Reading 1 is 34.7; it is 37.6, 39.2 and 35.8 for the SHAL schools and 40.0 for the National. Each SHAL school is closer to the National Norm than the City-wide result). One of the few exceptions to this generalization is the Stowe Language 8, but this result is not below the statistical average.

*Compiled by Dr. James R. Leonard, Midwest Race and Sex Desegregation Assistance Center, Kansas State University. The Midwest Center provided Technical Assistance in Training, Implementation and Evaluation for SHAL.

Table 12 provides comparisons of SHAL mean scores for 1981-82 end-of-year CAT (Spring, 1982) with the national norm and with city results (including SHAL schools). The results displayed in this manner show that SHAL schools seem to be making the best progress in the early greades (1-3). Displayed in this manner the data show that greatest gains have, to date, been in Laclede (9 of 19 above national), then Stowe (3 of 12), then Hempstead (3 of 19). Similar results appear when the number of mean scores higher than the city mean scores are tallied (Laclede, 17 of 19, Stowe, 6 of 12 and one tie; Hempstead, 10 of 19).

Using SHAL average mean scores for greades 1-5 (19 scores) and greades 6-8 (12 scores, or a total of 31 measurement points), SHAL outperforms the city (including SHAL) on 12 of 19 for grades 1-5 and 6-12 (and one tie) for 6-8, or 18 of 30 (one tie). Thus, SHAL exceeds the city 18 of 30, or 60 percent of the time. Using the national norm as a comparison, SHAL exceeds the actual national norm on 8 of 31 comparisons (26 percent) and the city (including SHAL) exceeds the actual national norm on 3 of 31 comparisons (9.7 percent).

Table 12

Spring, 1982 Comparisons of SHAL, City and
National Means on CAT Reading, Math, and
Battery (Numerical Mean Comparison)

		SHAL means							
		NAT.	CITY	S	H	A	L	Ave. above City (N)	
Grade/Test									
1	Reading	40.0	37.7		39.2	37.6	35.8	37.8*	1
	Math	40.2	37.6		43.6	38.2	39.3	40.8*	3
	Battery	94.8	84.8		97.0	88.7	90.4	92.6*	3
2	Reading	51.1	43.5		42.5	37.6	47.9	43.3	1
	Lang.	30.4	27.9		28.4	25.2	29.4	28.0*	2
	Math	47.4	44.7		46.1	42.4	50.3	46.7*	2
	Battery	146.3	131.8		134.7	112.8	144.4	132.8*	2
3	Reading	55.5	49.6		51.2	44.2	58.3	51.6*	2
	Lang.	33.7	32.4		35.3	26.3	37.4	33.4*	2
	Math	55.9	52.6		55.3	49.6	65.2	57.1*	2
	Battery	161.6	149.5		156.6	135.9	178.3	166.7*	2
4	Reading	44.1	38.7		36.2	35.5	38.3	36.8	0
	Lang.	41.1	39.8		38.5	36.7	41.3	39.1	1
	Math	50.5	48.1		47.2	45.2	49.9	47.7	1
	Battery	149.4	139.0		135.5	128.3	143.9	136.7	1
5	Reading	45.0	42.5		39.5	40.2	42.7	40.6	1
	Lang.	41.5	41.6		40.2	41.9	47.1	42.6*	2
	Math	50.5	51.4		48.9	50.2	59.6	52.3*	1
	Battery	150.1	148.0		140.8	144.5	162.1	147.8	1
Number Above City					(10)	(3)	(17)		(30)
6	Reading	44.3	40.9	40.4					0
	Lang.	42.5	42.9	43.6					1
	Math	48.7	47.2	49.8					1
	Battery	148.9	143.8	146.3					1
7	Reading	40.0	36.5	33.8					0
	Lang.	38.9	38.3	38.3					--
	Math	43.2	40.7	46.0					1
	Battery	136.1	128.3	130.4					1
8	Reading	39.8	36.9	34.1					0
	Lang.	41.0	41.0	39.7					0
	Math	49.4	48.0	49.0					1
	Battery	141.5	138.1	135.2					0
				(6)					(6)

○ = Means higher than National: City = 3 of 31 (9.7%); SHAL = 16 of 69 (23.2 %). Using Average and grades 6-8, then City = 3 of 31; SHAL = 8 of 31 (26%)

Summary

Both types of data--quartile data and preliminary statistical analyses--show that, even in its short time of operation, Project SHAL has recorded outstanding successes. Although it is not yet possible to track individual pupils with "matched" data, use of aggregate data shows that more SHAL schools are statistically (.05) at or beyond the national norms on CAT than are City or Area I schools. The SHAL schools have scored impressive gains in moving pupils from low to high quartiles in reading and math. Even though the SHAL schools started behind the City and Area I schools in every category, the SHAL schools have met or surpassed the City and Area I schools. In eight comparisons of gains over time, SHAL was higher on six, even on one, and lower on only one when compared to both City and Area I schools.

It seems safe to report that SHAL schools are making outstanding progress toward achieving the goal of getting pupils at or above national norms on the CAT for reading and math. These results are important, especially since SHAL has been working with pupils for such a short time.

The second goal of SHAL, a replication model, has been achieved. The model needs some actual use and testing. Movement of SHAL concepts to an additional 12 schools in Area I should provide an opportunity for this field test.

Some refinements in evaluation are needed to provide better evaluation results. Many of these refinements have been discussed in this report.

All preliminary indications at the current time point to SHAL as a winner!